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| **TOPICS 4-6** | Topics 4-6 Test | **BLM 3-31** |
| ASSESSMENT |  |

# Goal • Demonstrate your understanding of the concepts presented in Topics 4, 5, and 6.

**What to Do**

Carefully read the instructions before answering each set of questions.

**Fill in the Blanks**

1. Complete each statement with the correct term.

(a) An object or a material that can transfer its energy to other objects is called a(n)  
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. The transfer of energy through matter by direct collisions of vibrating particles is called

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(c) The transfer of energy through a liquid or a gas by the motion of currents is called  
 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. Any material that can be poured or can flow from place to place is called a  
   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Any material that allows thermal energy to pass through it easily is a  
   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Radiation is the transfer of energy in the form of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. Poor conductors, such as wood and air, are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. Insulating materials are rated by their \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which describes their resistance to conduction.
6. Radiant energy can be absorbed or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by objects.
7. The only method of energy transfer that does not require matter is  
   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

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**Short Answers**

Answer the following questions in the space provided.

1. Describe what happens to the volume of solids, liquids, and gases as they warm and cool.

1. Complete the following table.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name of change** | **From** | **To** | **Energy of substance must be** |
| melting |  |  | increased |
| freezing | liquid |  |  |
| vaporization |  | gas | increased |
|  |  | liquid | decreased |
| sublimation |  |  |  |
|  | solid | gas |  |

1. Use the particle model to describe, in detail, what happens to water in a fishbowl that is located in a sunny window.

1. What happens to the temperature of a substance when it goes through a change of state as   
   a result of heating?

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# True and False

1. The particle theory of matter states that as materials warm up, their particles move faster and spread apart.

A) True

B) False

2. As they are cooled, all liquids contract by the same amount.

A) True

B) False

3. It is the cold water that makes you feel cold when you come out of the water in a swimming pool.

A) True

B) False

4. As a gas changes to a liquid, the particles become more organized as their energy decreases.

A) True

B) False

5. The temperature of the boiling point of a substance is the same as the temperature of its condensation point.

A) True

B) False

6. The effect produced by a wet cloth placed on the forehead of a person with a high fever is an example of evaporative cooling.

A) True

B) False

7. In an incandescent light bulb, 5% of the electrical energy is transformed into light energy. The remaining 95% of the energy is transformed into thermal energy.

A) True

B) False

8. The combination of colour and texture that would best reflect radiant energy is light-coloured and shiny.

A) True

B) False

9. Convection currents occur in solids and liquids, but not in gases.

A) True

B) False

10. Radiant energy can travel through any material, but not through empty space.

A) True

B) False

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# Matching

1. States of matter.

Particles are separated by large spaces.

Very strong forces of attraction between particles. \_\_\_\_\_\_\_

Cannot be compressed. \_\_\_\_\_\_\_

Particles move freely but volume remains constant. \_\_\_\_\_\_\_

No definite shape. \_\_\_\_\_\_\_

A. solids

B. liquids

C. gases

D. solids and liquids

E. liquids and gases

F. solids and gases

## 2. Changes of State

Frost appearing on windows. \_\_\_\_\_\_\_

Ice cream running down a cone on a sunny day. \_\_\_\_\_\_\_

Steam rising from a cup of hot tea. \_\_\_\_\_\_\_

A pond becoming hard enough to skate on. \_\_\_\_\_\_\_

Moisture forming on the side of a glass of cold water. \_\_\_\_\_\_\_

A. melting

B. freezing

C. phases

D. condensation

E. sublimation

F. evaporation